

FIG. 3

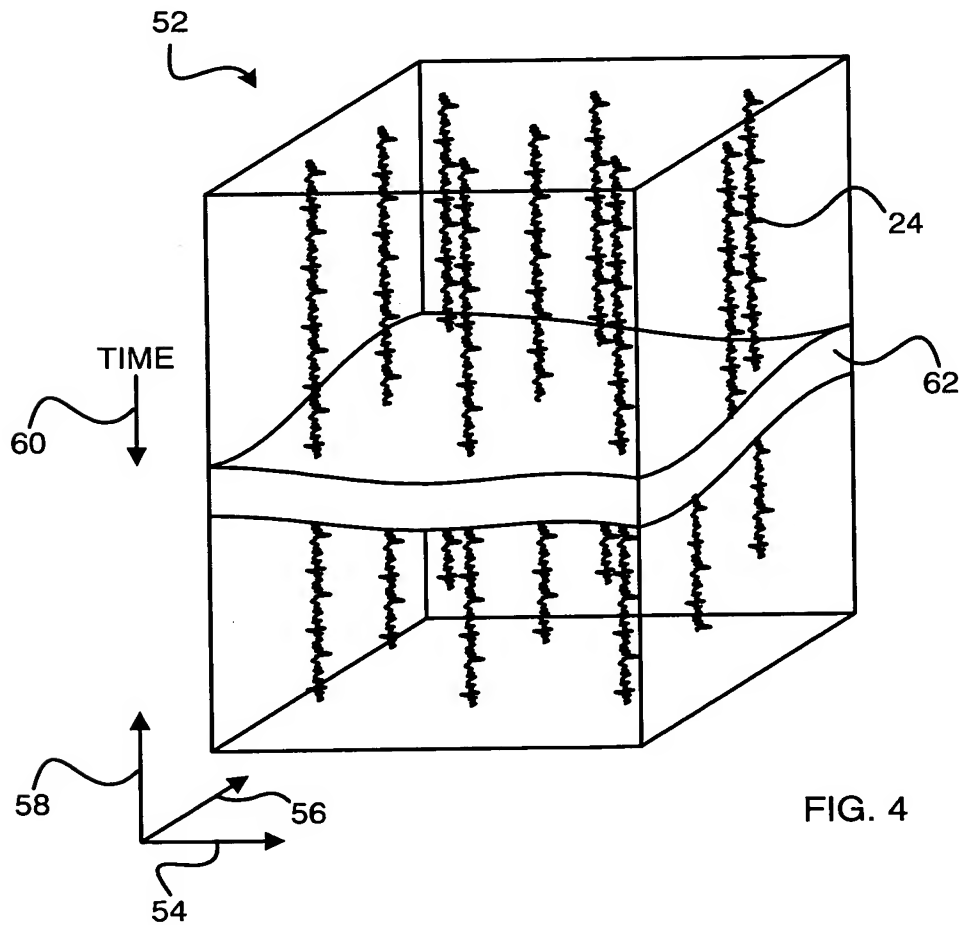


FIG. 4

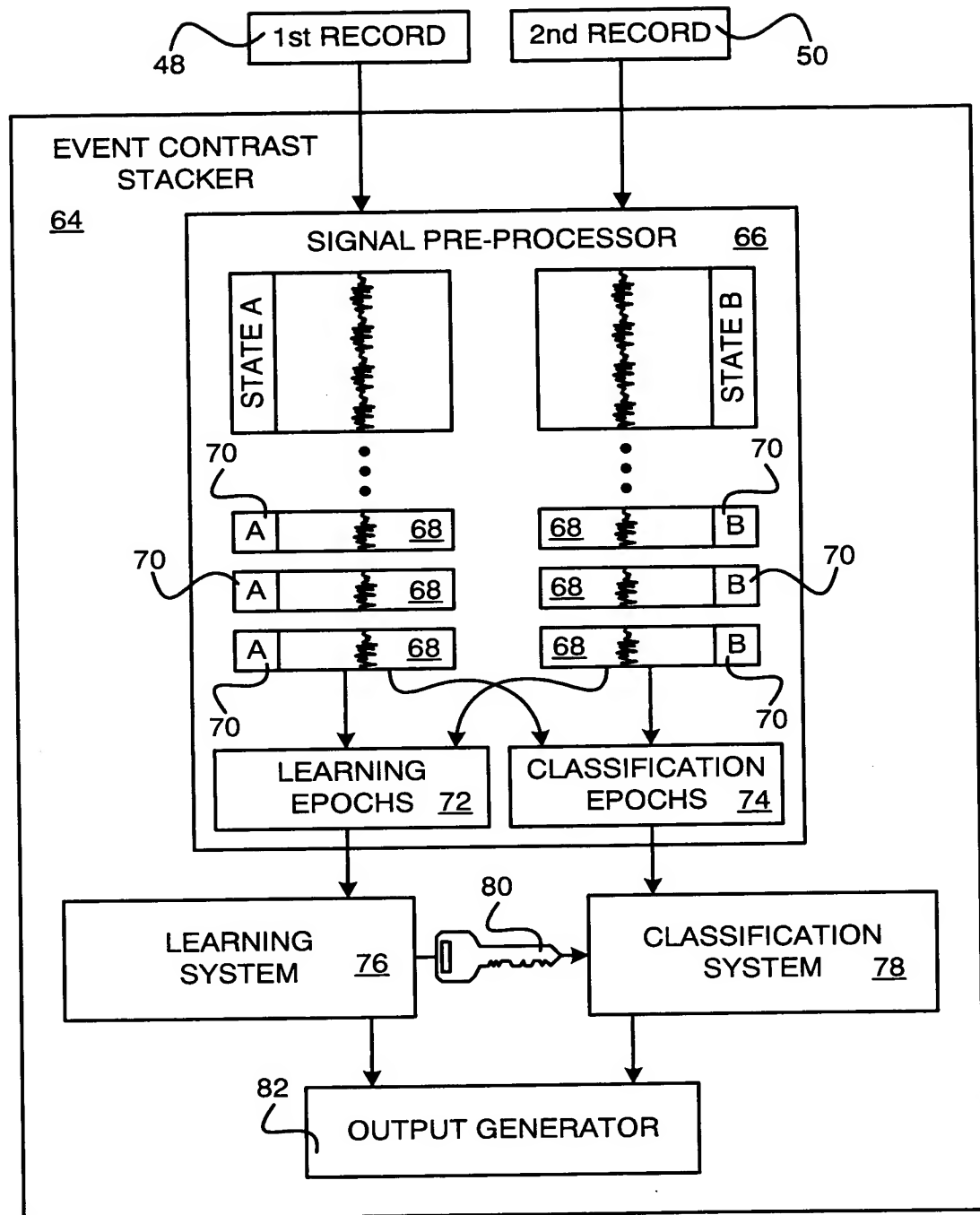


FIG. 5

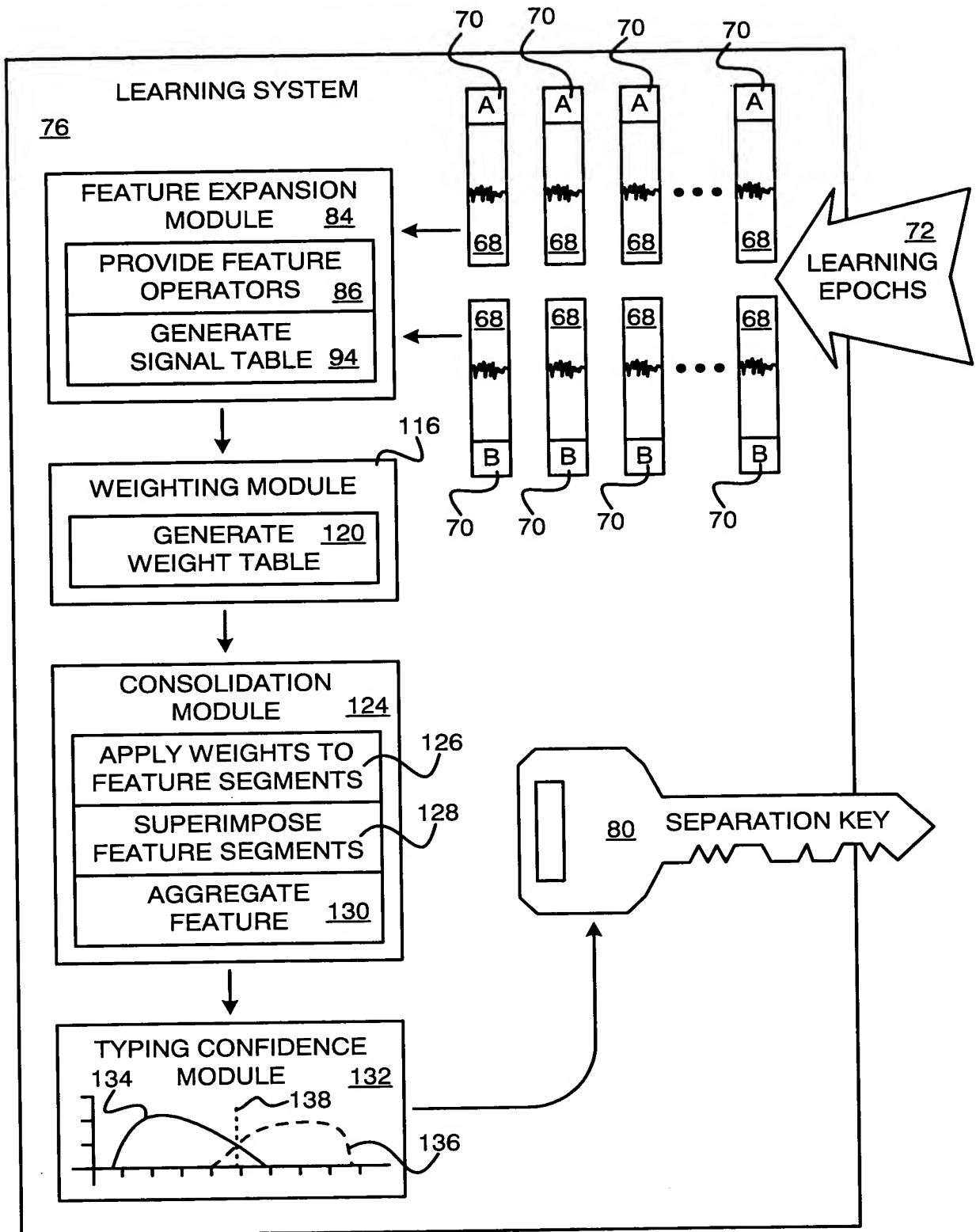


FIG. 6

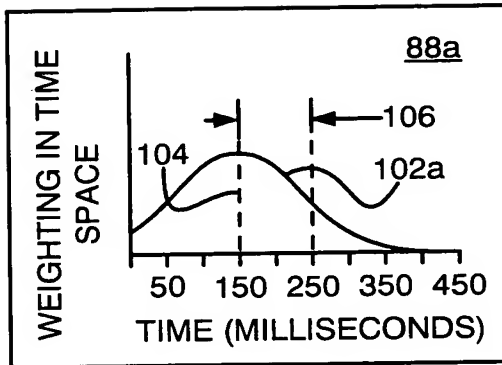


FIG. 7

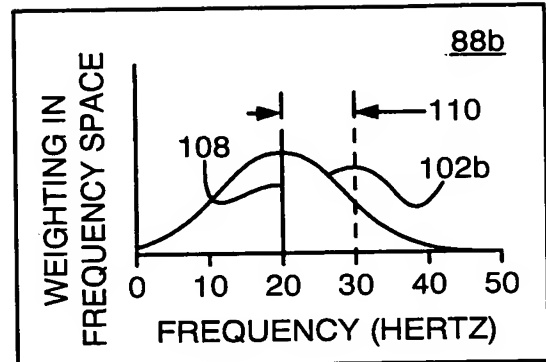


FIG. 8

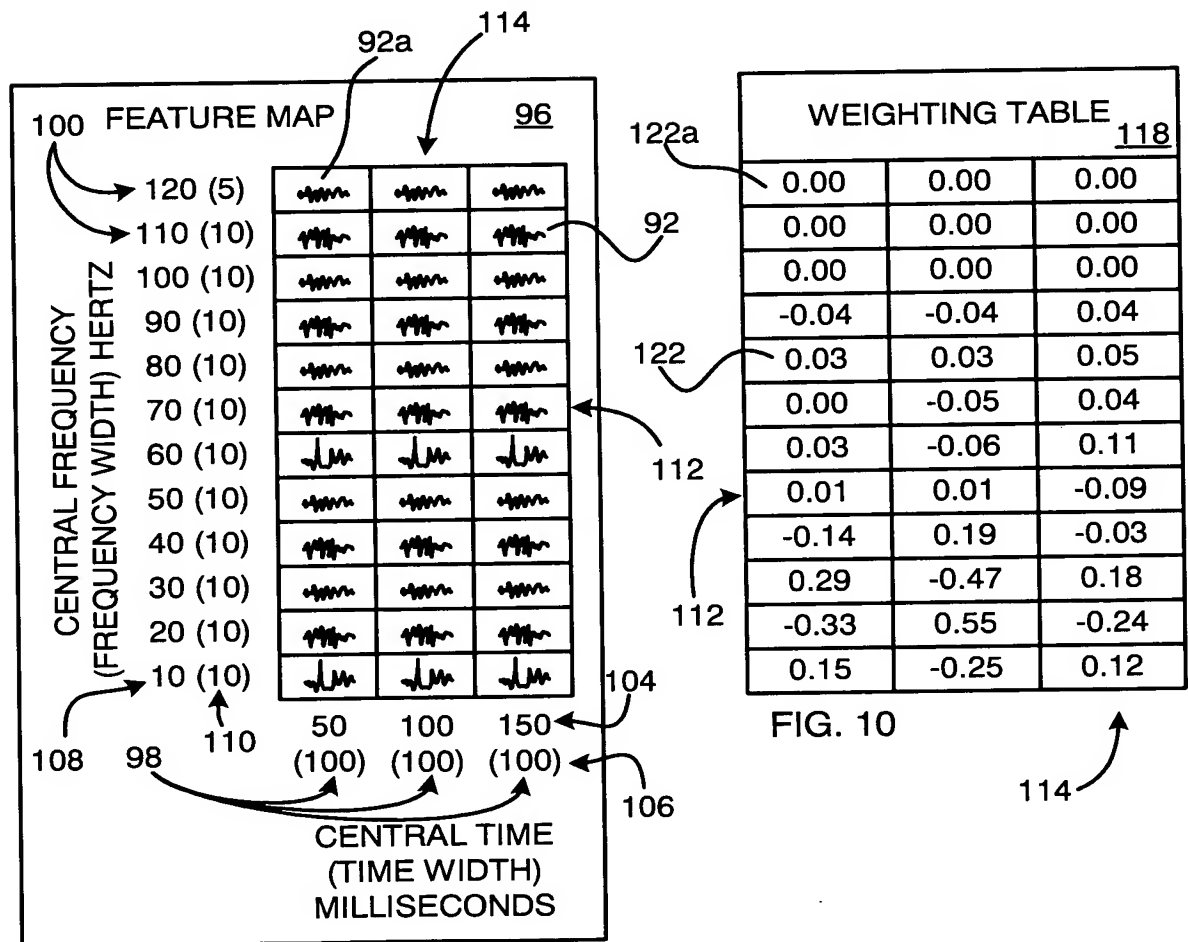


FIG. 9

FIG. 10

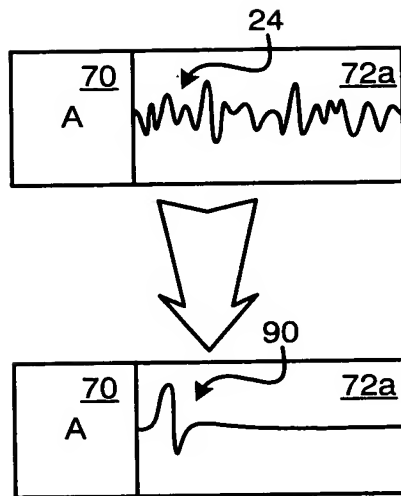


FIG. 11

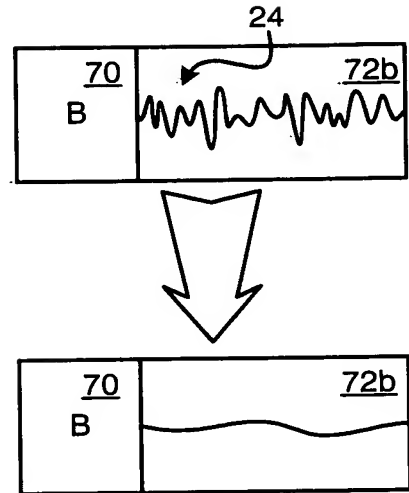


FIG. 12

SEPARATION KEY				80
CENTRAL FREQUENCY (FREQUENCY WIDTH) HERTZ	120 (5)	0.00	0.00	0.00
	110 (10)	0.00	0.00	0.00
	100 (10)	0.00	0.00	0.00
	90 (10)	-0.04	-0.04	0.04
	80 (10)	0.03	0.03	0.05
	70 (10)	0.00	-0.05	0.04
	60 (10)	0.03	-0.06	0.11
	50 (10)	0.01	0.01	-0.09
	40 (10)	-0.14	0.19	-0.03
	30 (10)	0.29	-0.47	0.18
	20 (10)	-0.33	0.55	-0.24
	10 (10)	0.15	-0.25	0.12
		50 (100)	100 (100)	150 (100)
CENTRAL TIME (TIME WIDTH) MILLISECONDS				
OPTIMAL THRESHOLD VALUE				138
SUPERPOSITION PROCEDURE				128
AGGREGATION PROCEDURE				130

FIG. 13

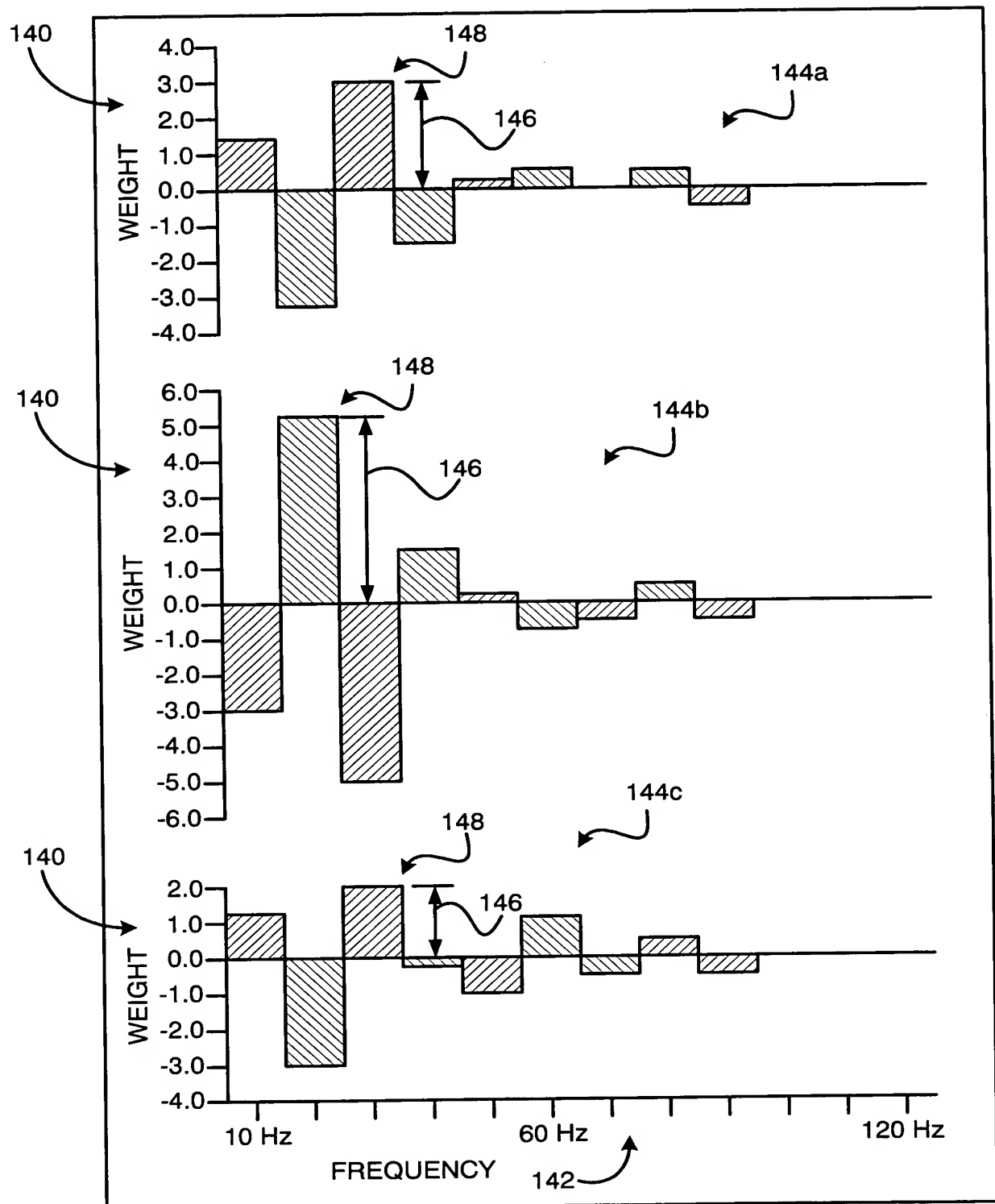
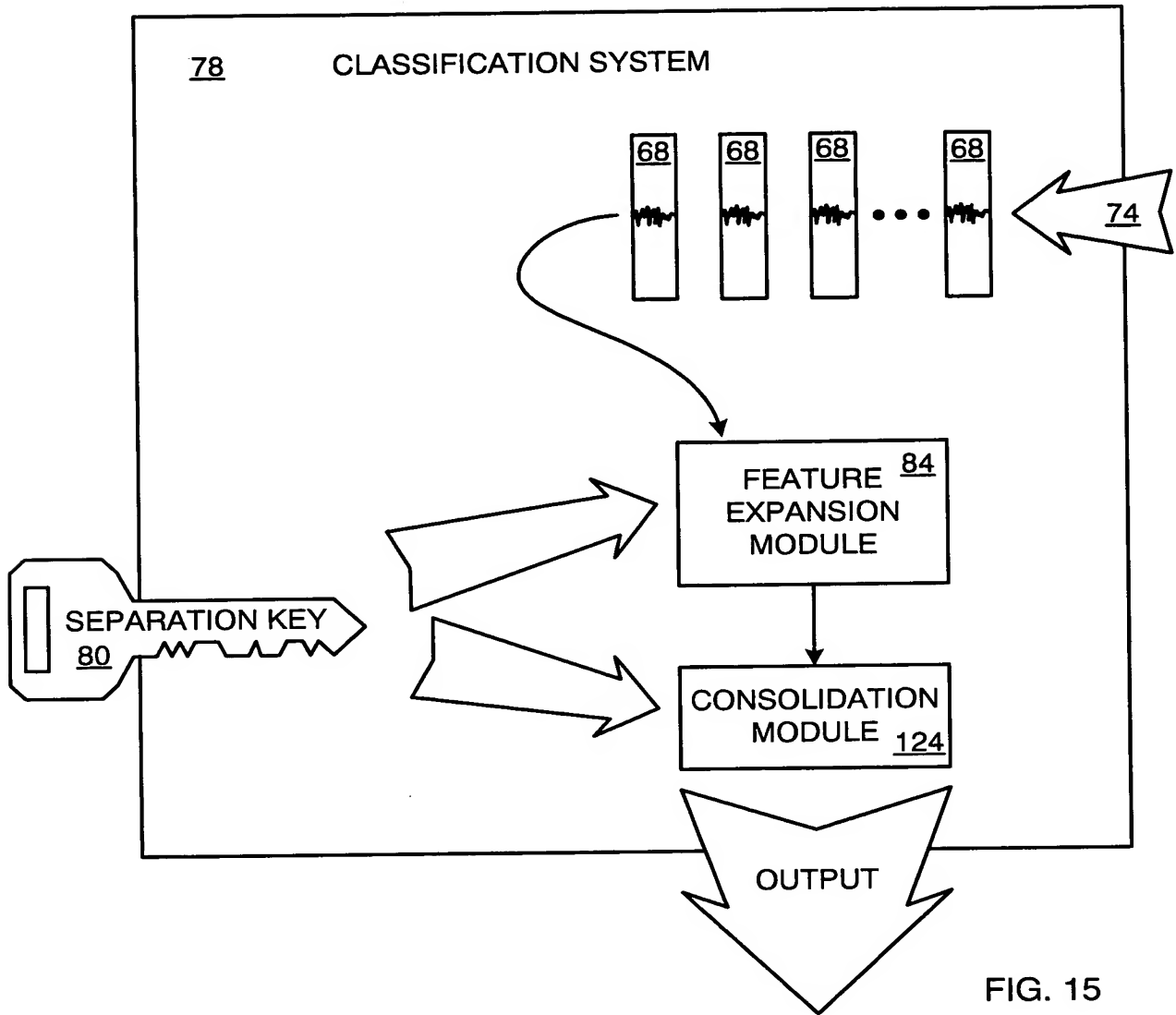


FIG. 14



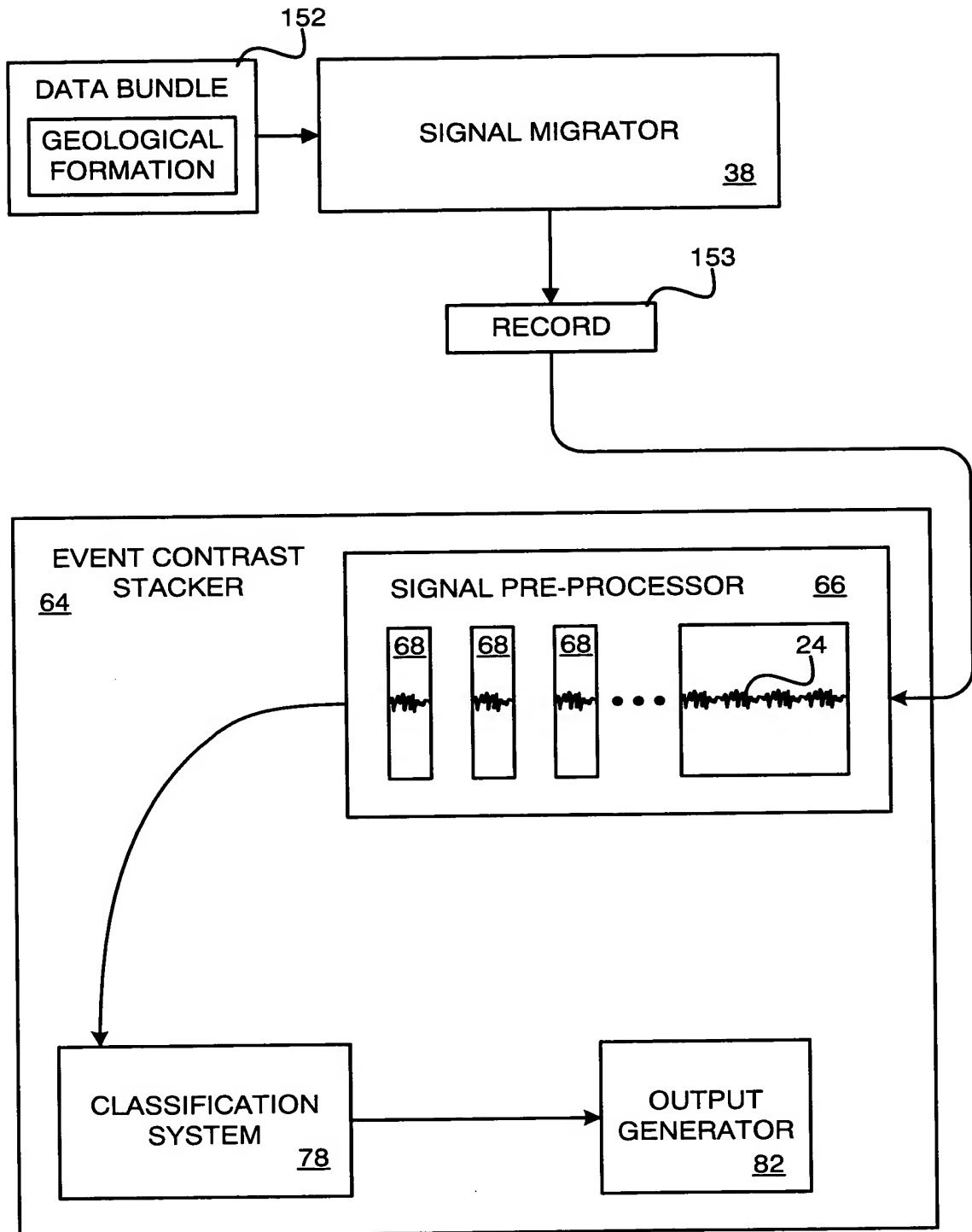


FIG. 16

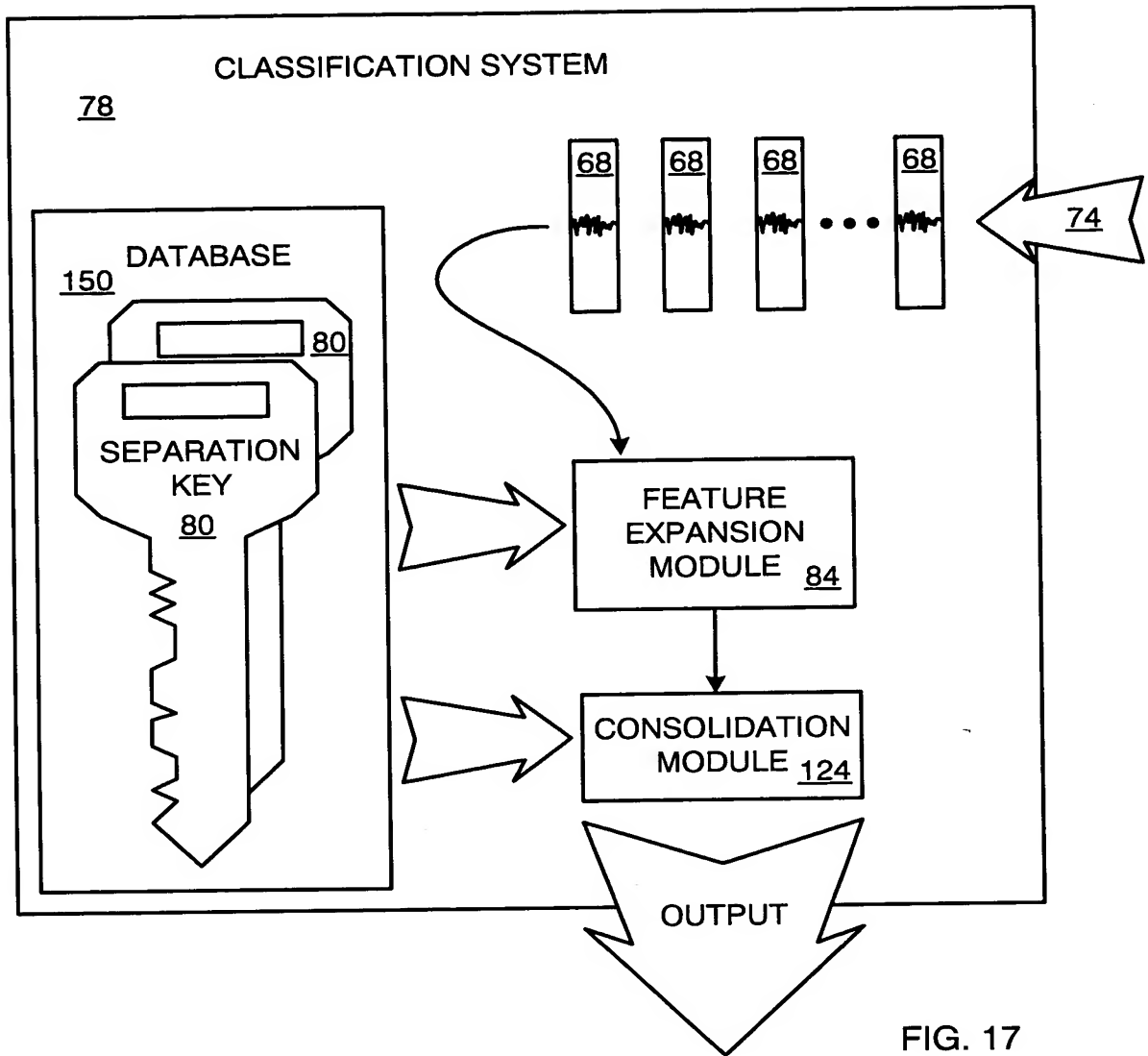


FIG. 17

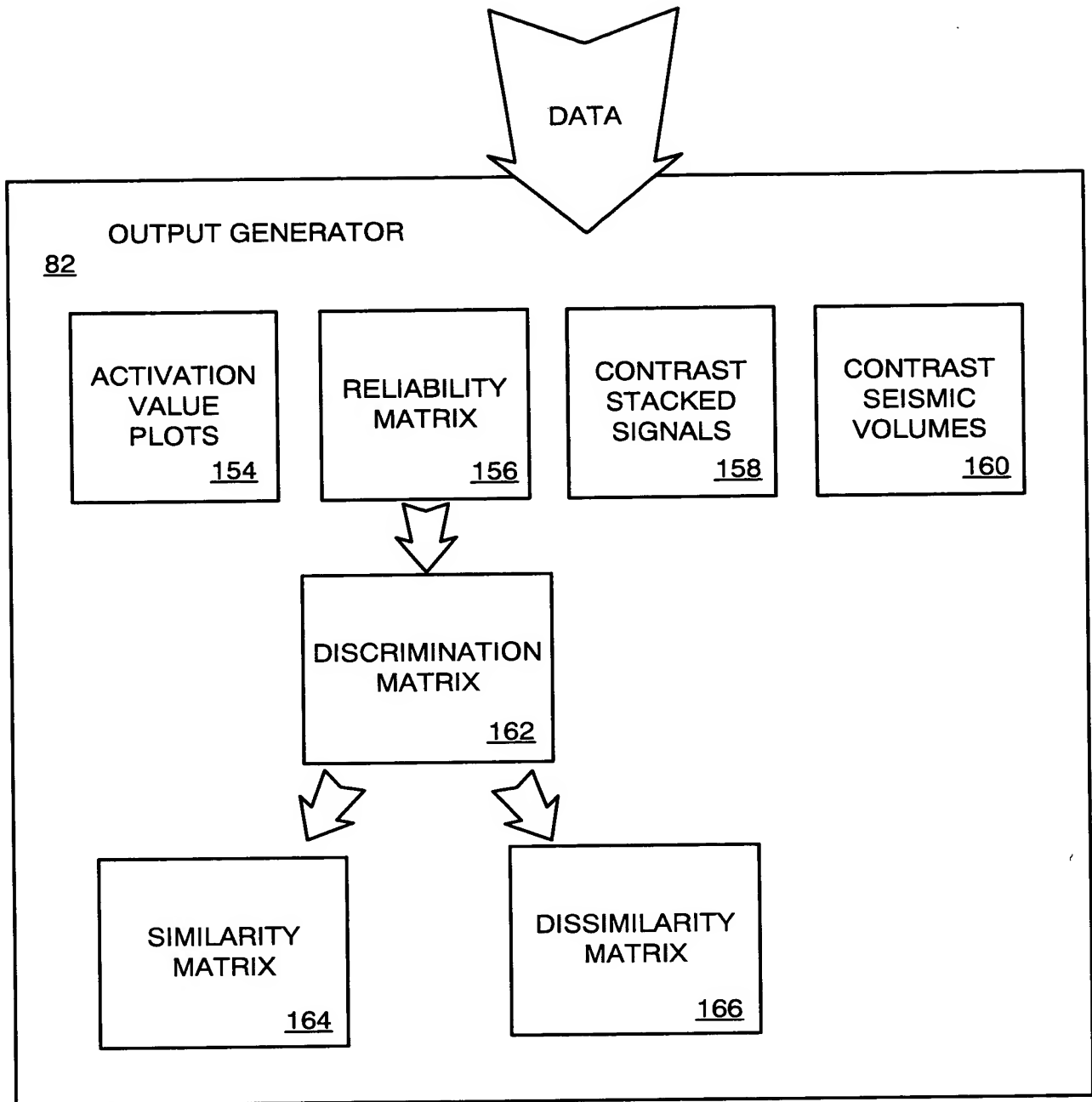
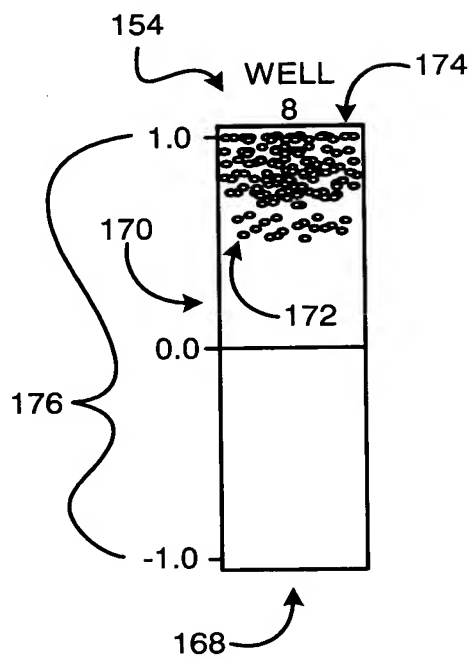
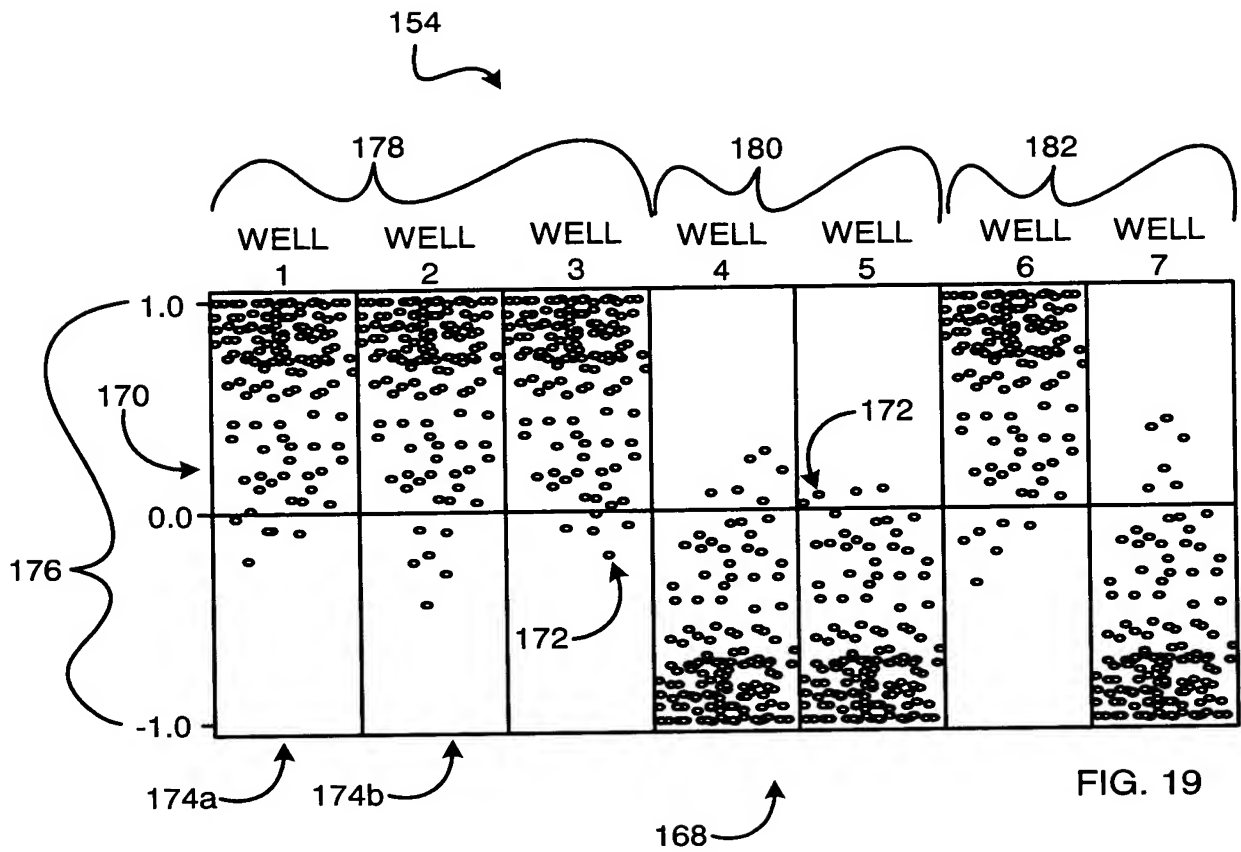


FIG. 18



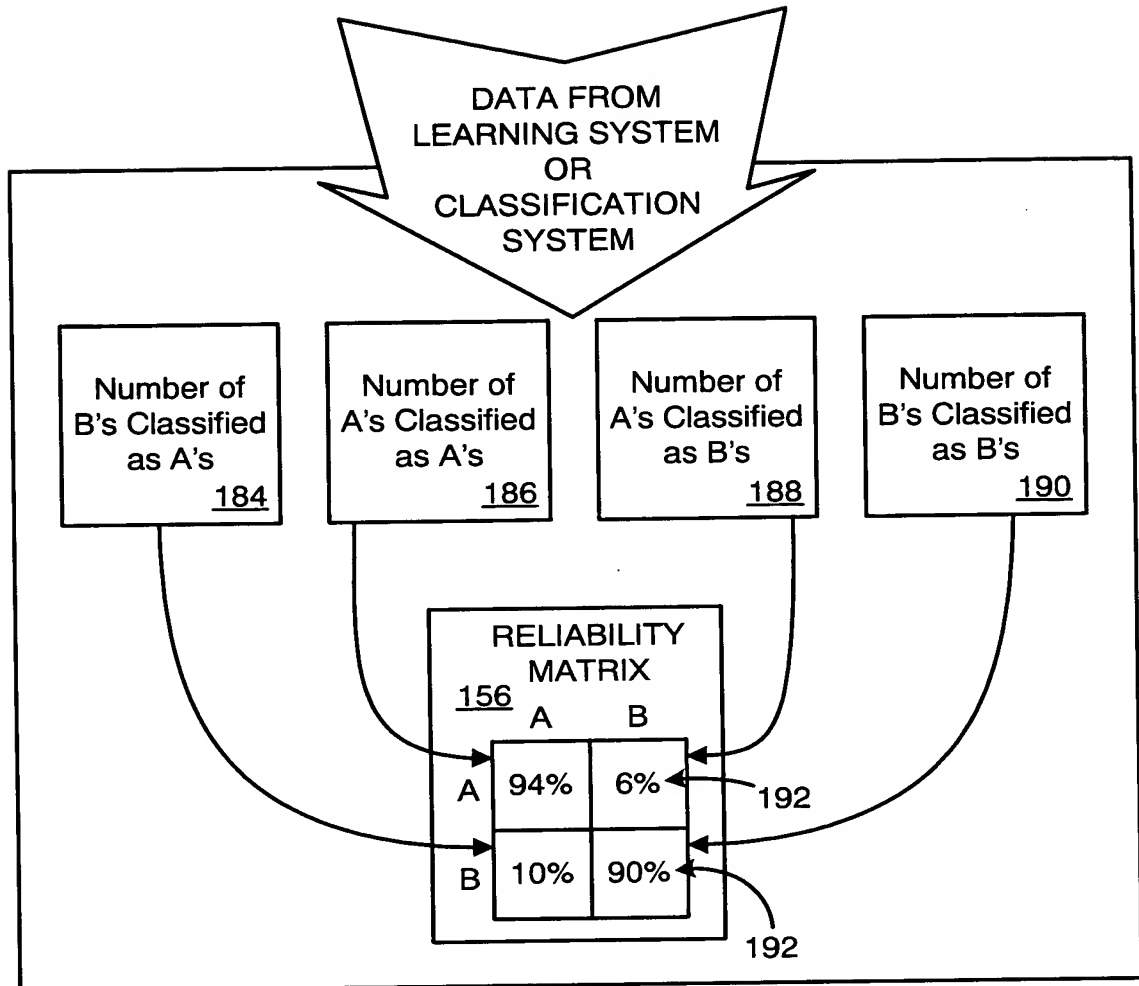


FIG. 21

RELIABILITY MATRICES

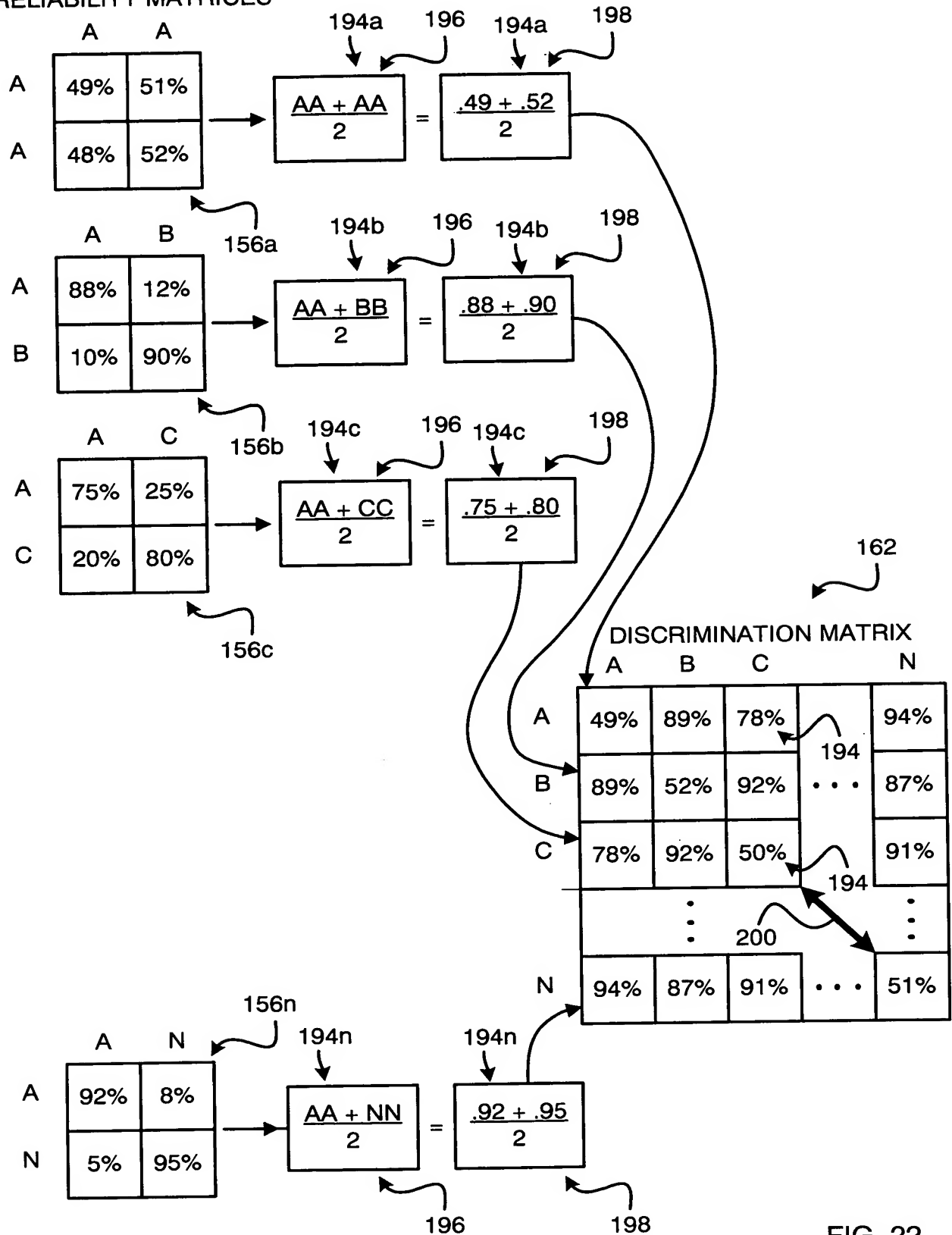


FIG. 22

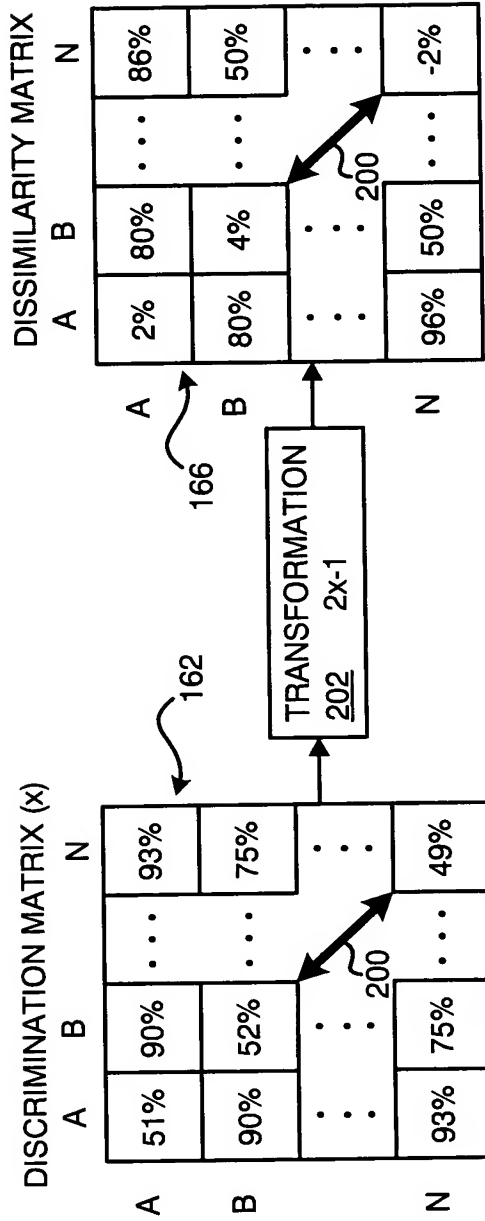


FIG. 23

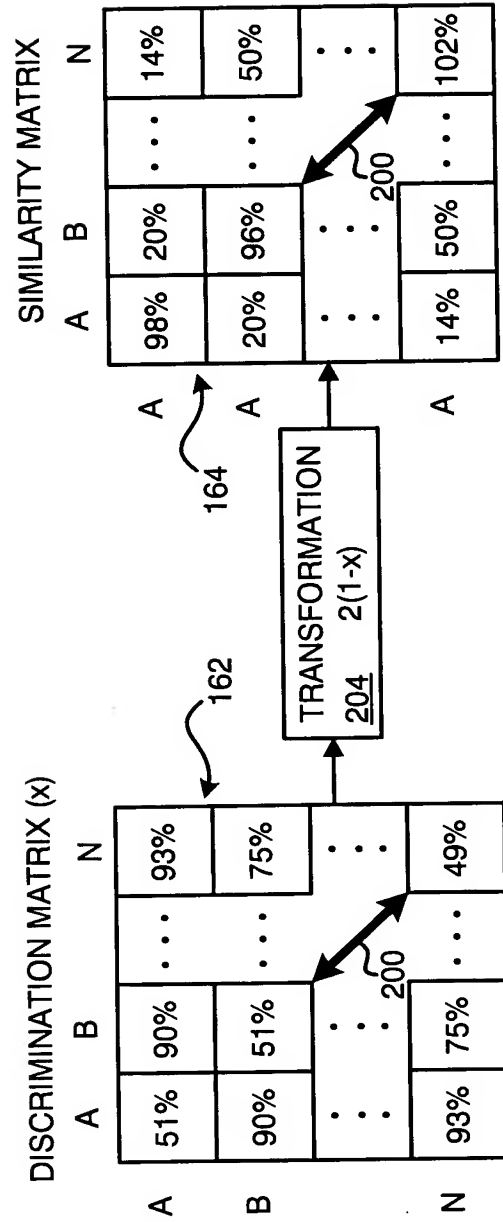


FIG. 24

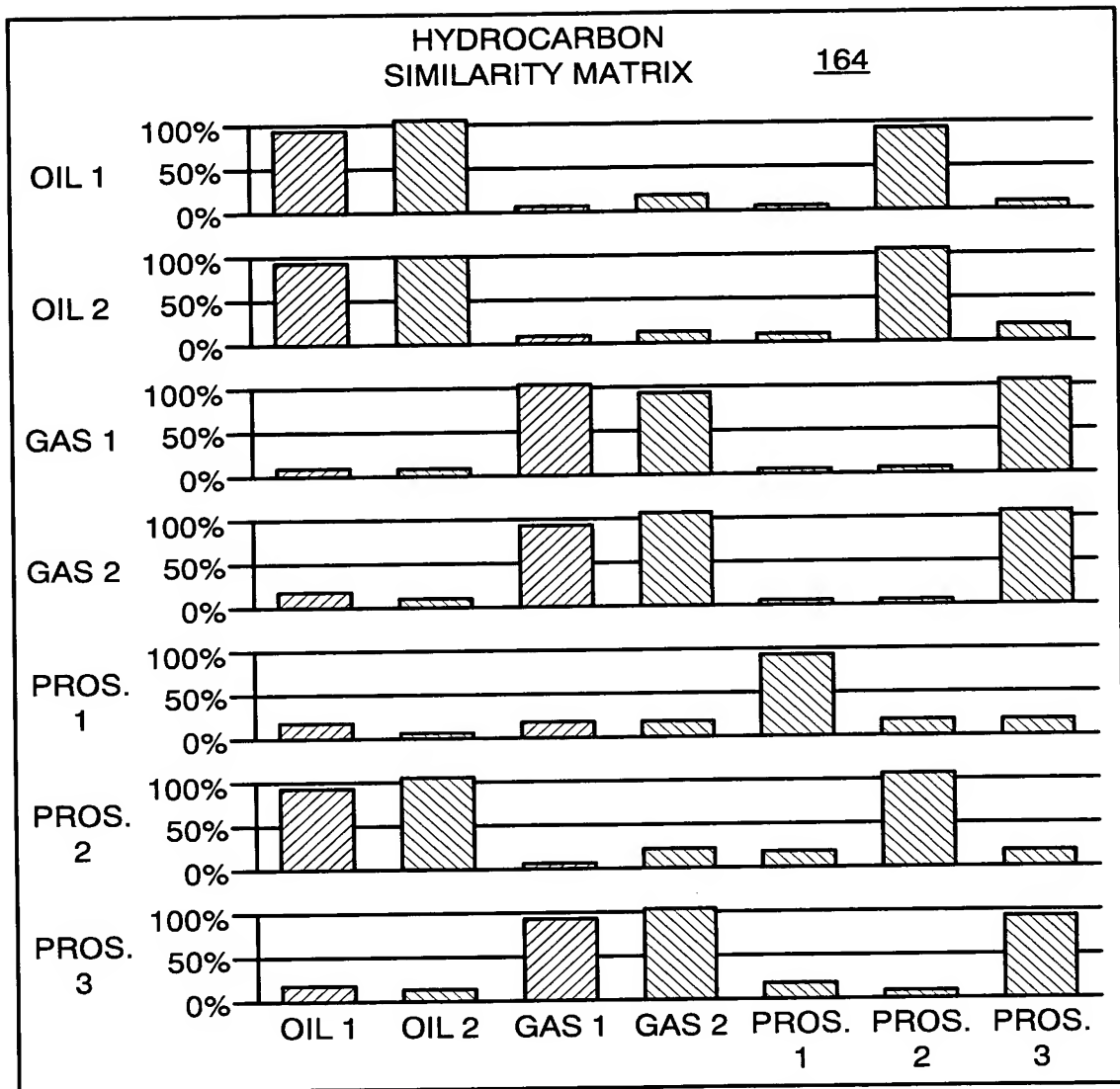
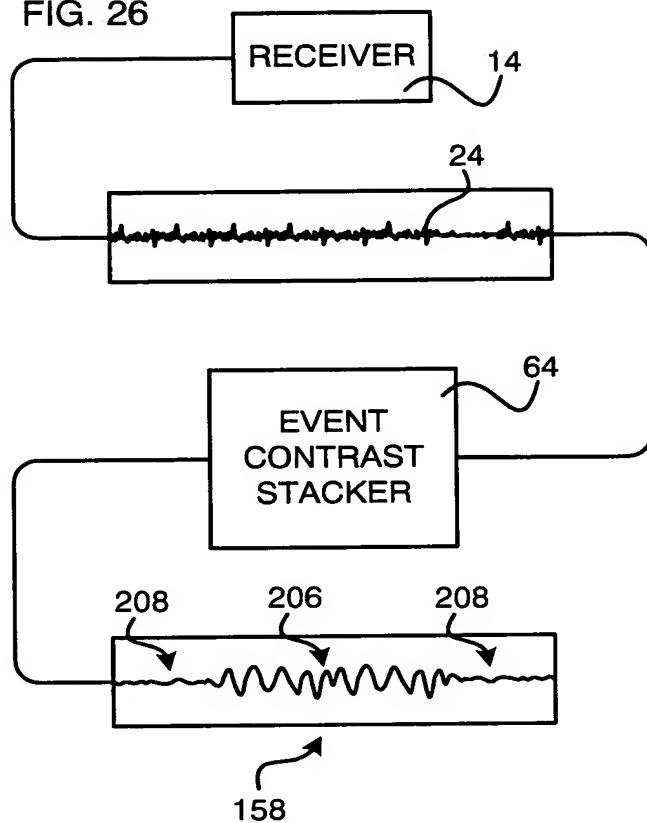


FIG. 25

FIG. 26



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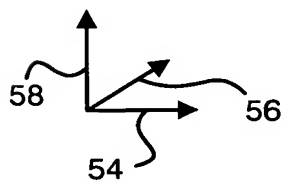
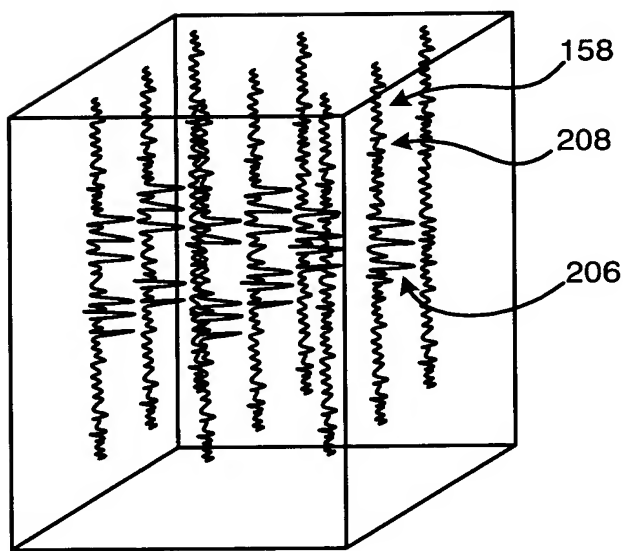


FIG. 27

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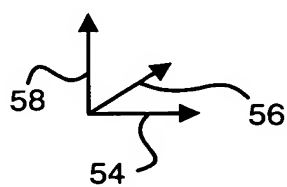
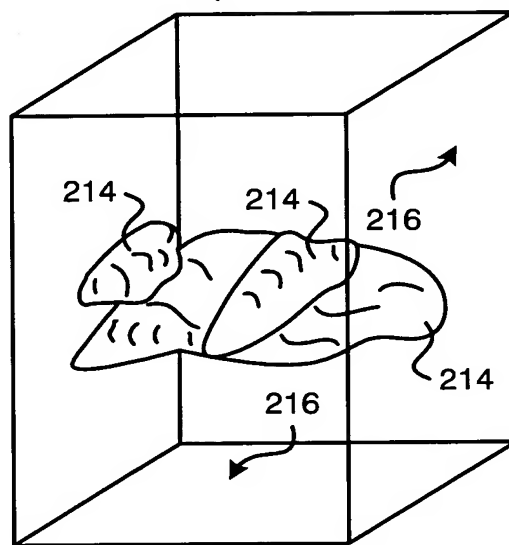


FIG. 28

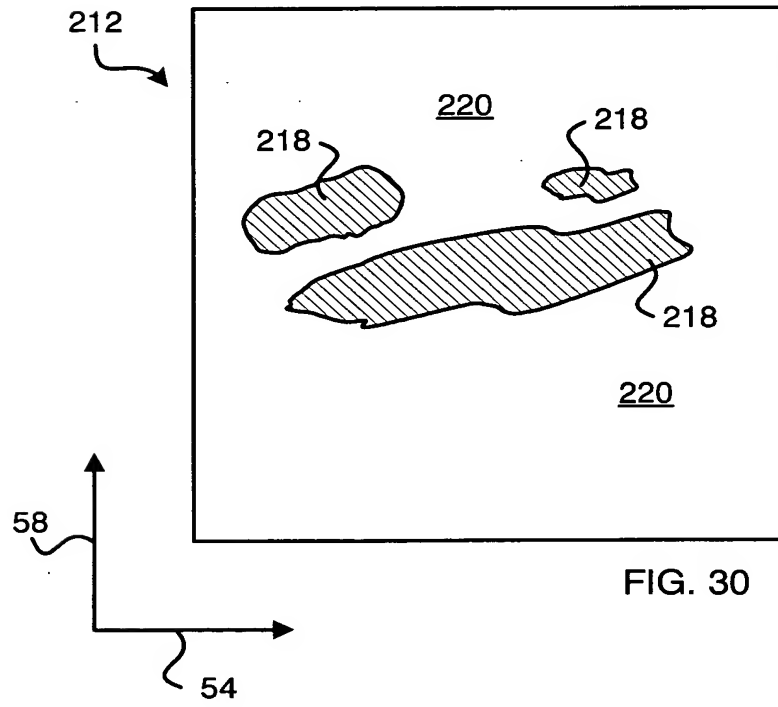
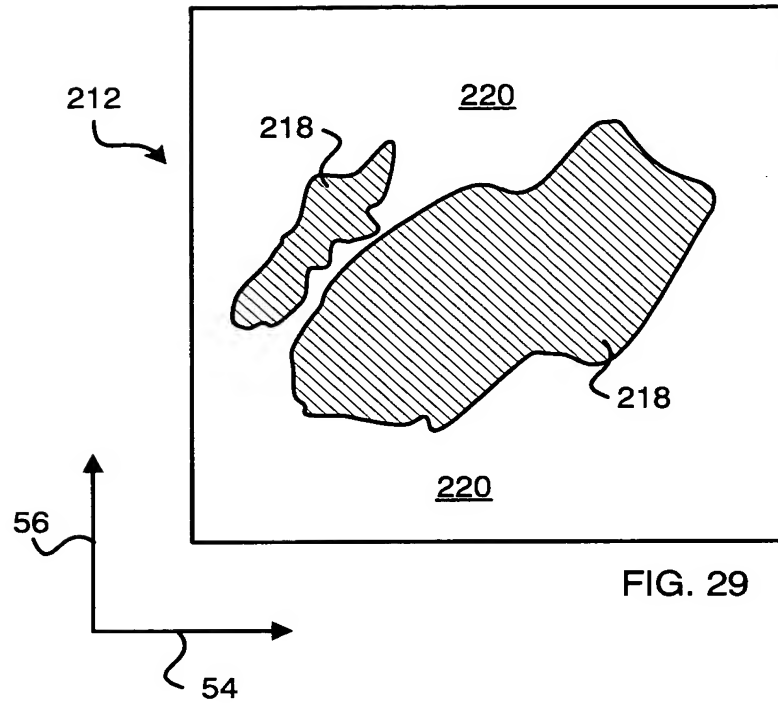


FIG. 31

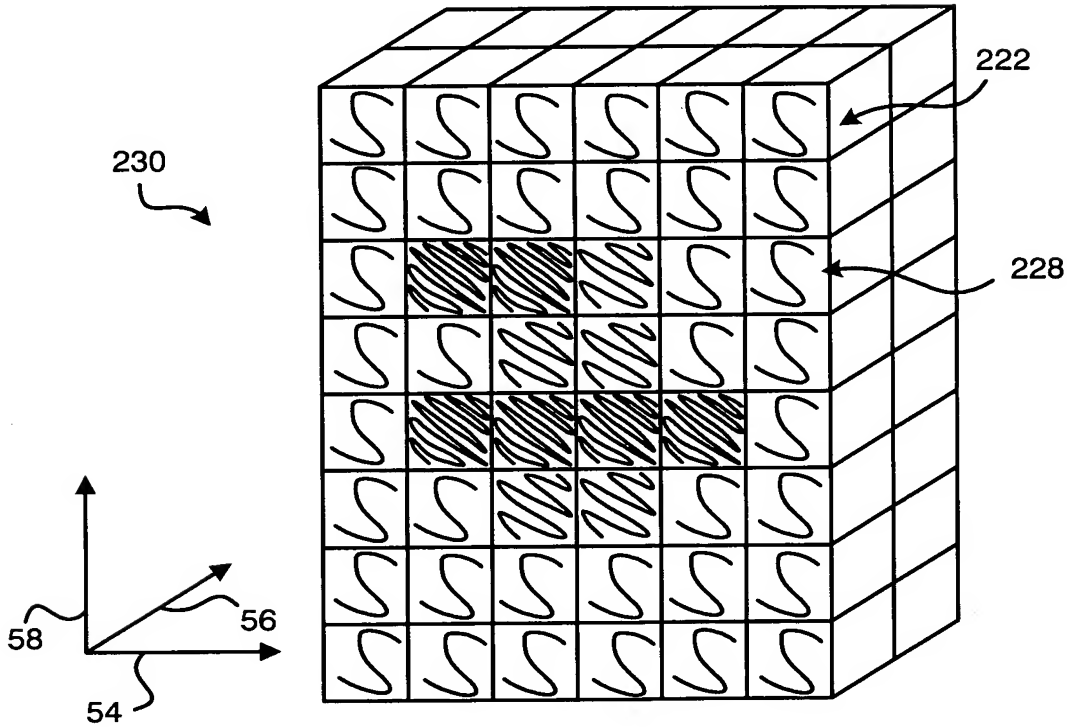
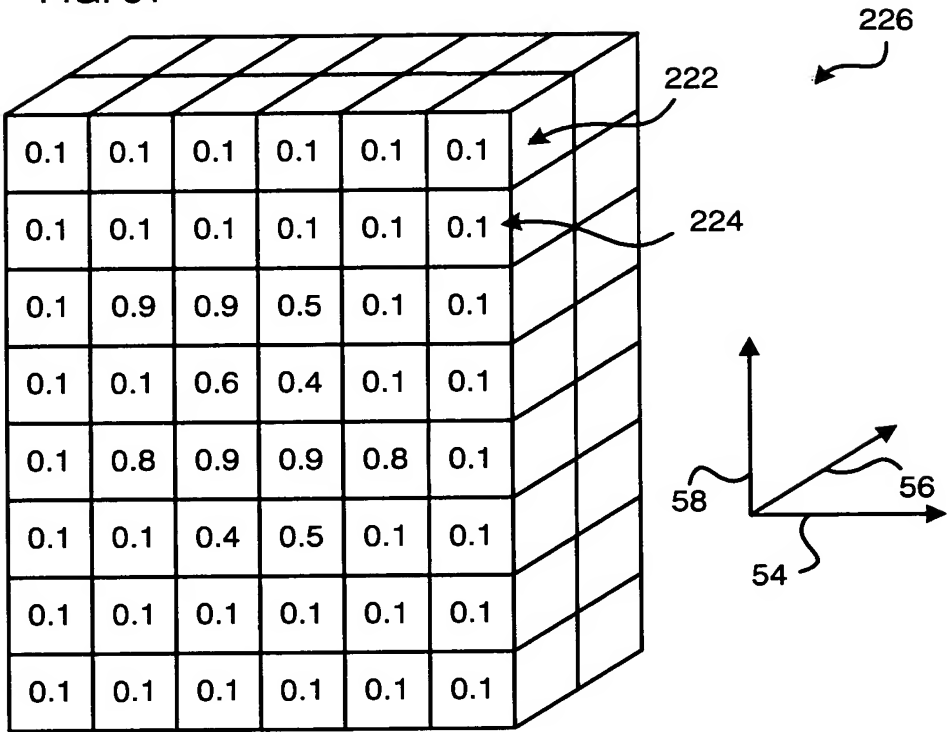


FIG. 32

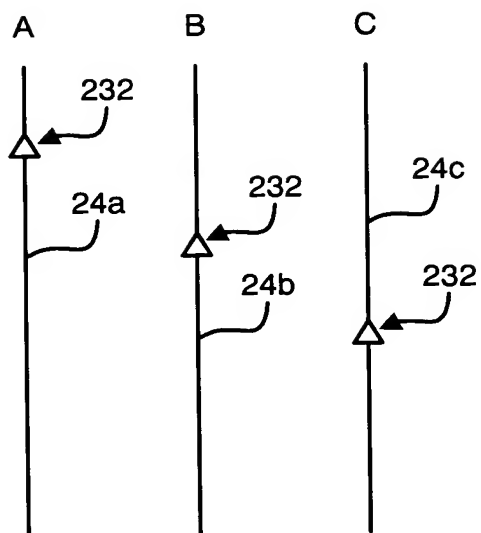


FIG. 33

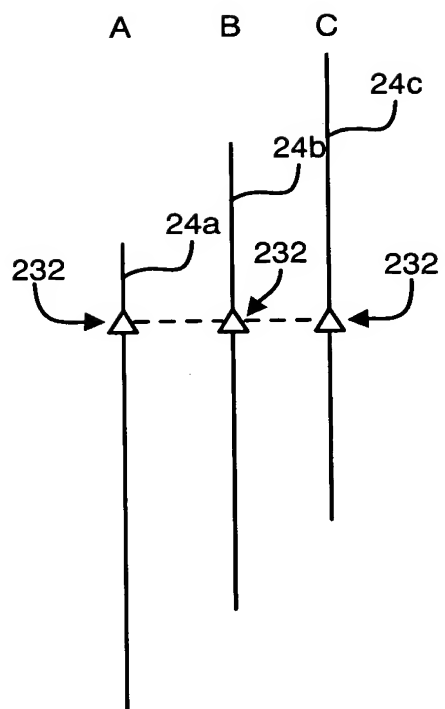


FIG. 34

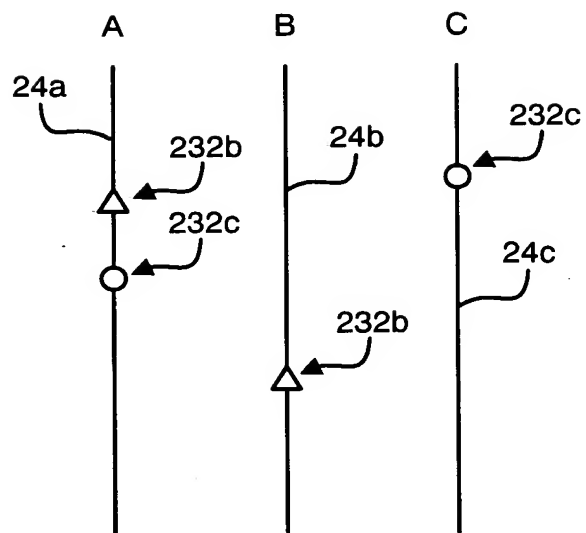


FIG. 35

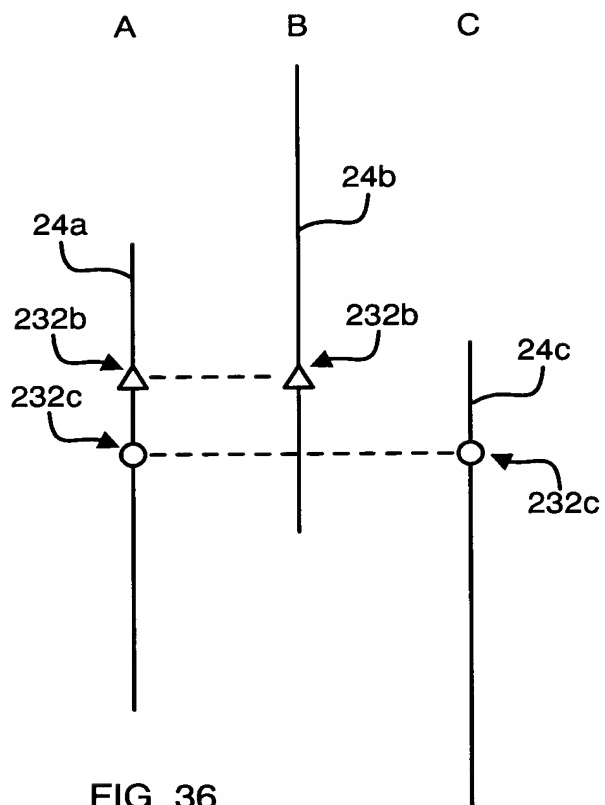


FIG. 36

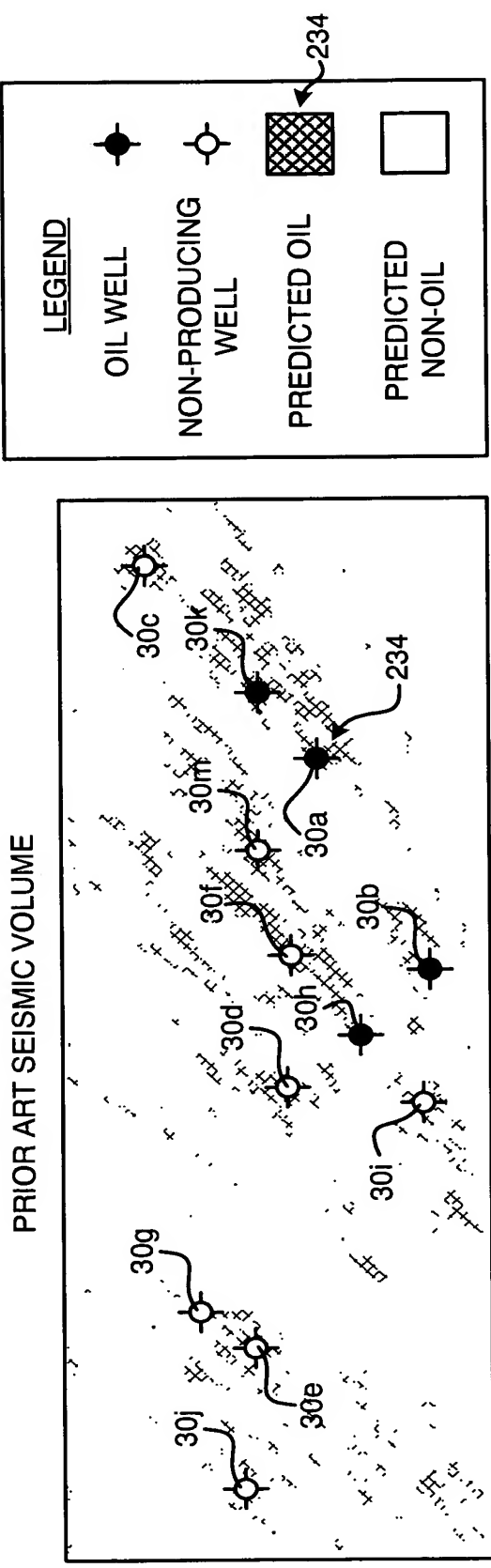


FIG. 37

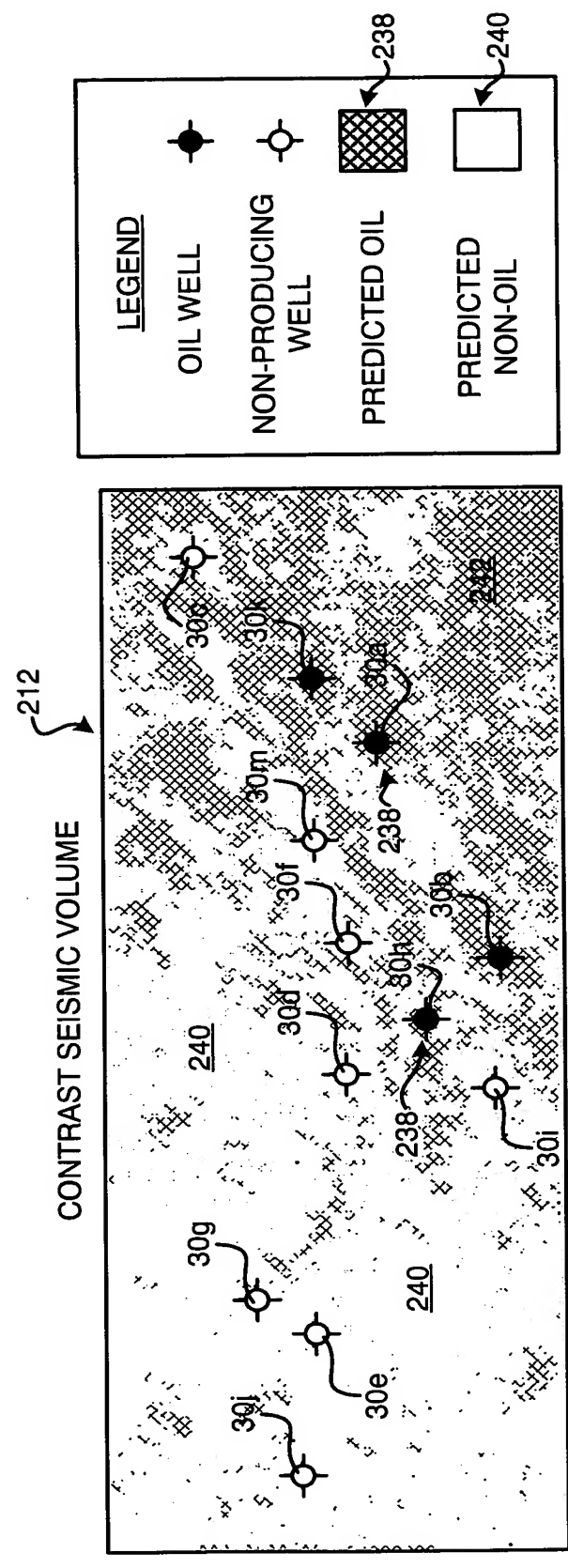
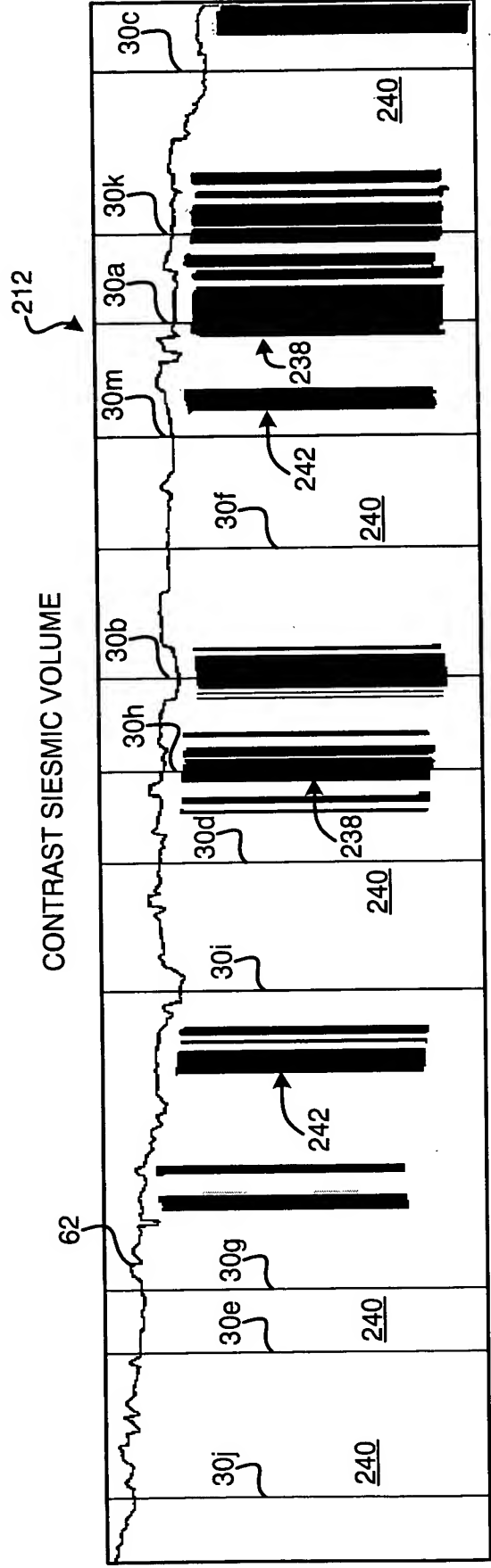
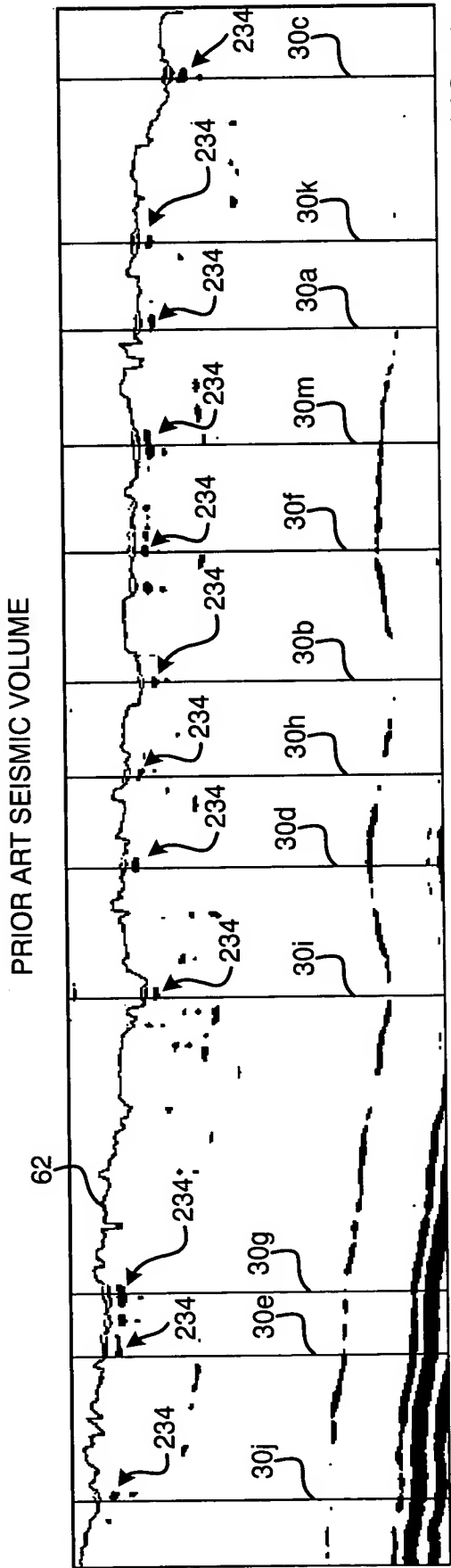


FIG. 38



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	WELL	STATE	TIME	TRACES	USE
30a	1	OIL	0.976 - 1.176	169	CLASSIFY
30b	2	OIL	0.964 - 1.164	167	LEARN
30c	3	DRY	0.990 - 1.190	158	LEARN
30d	4	DRY	0.944 - 1.144	177	CLASSIFY
30e	5	WET	0.926 - 1.126	154	LEARN
30f	6	WET	0.960 - 1.160	171	CLASSIFY
30g	7	UNKNOWN	0.924 - 1.124	159	CLASSIFY
30h	8	UNKNOWN	0.950 - 1.150	163	CLASSIFY
30i	9	UNKNOWN	0.958 - 1.158	165	CLASSIFY
30j	10	UNKNOWN	0.920 - 1.120	163	CLASSIFY
30k	11	UNKNOWN	0.972 - 1.172	155	CLASSIFY
30m	12	UNKNOWN	0.966 - 1.166	170	CLASSIFY

FIG. 41

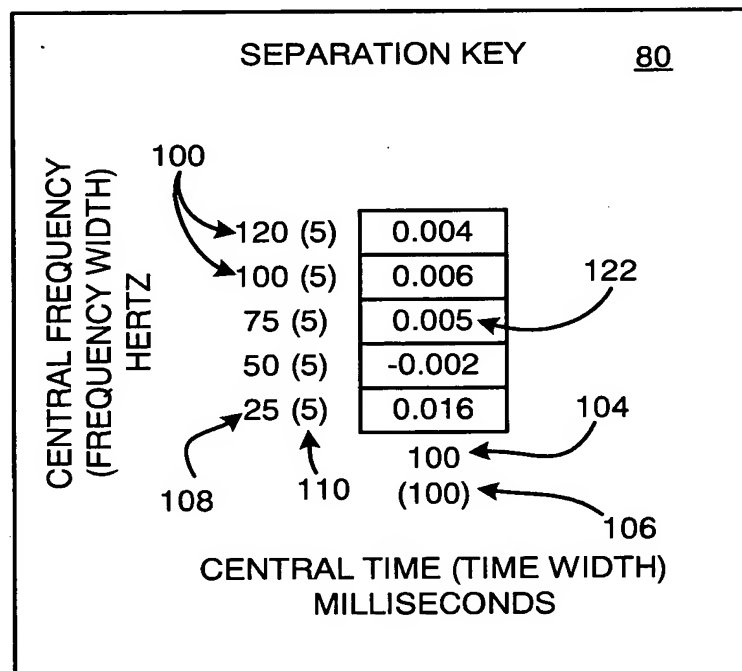


FIG. 42

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	WELL	STATE	TIME	TRACES	USE
30a	1	GAS	0.75 - 0.95	481	LEARN
30b	2	WET	0.75 - 0.95	606	LEARN
30c	3	TEST	0.75 - 0.95	441	CLASSIFY
30d	4	TEST	0.75 - 0.95	431	CLASSIFY
30e	5	TEST	0.75 - 0.95	483	CLASSIFY

FIG. 44

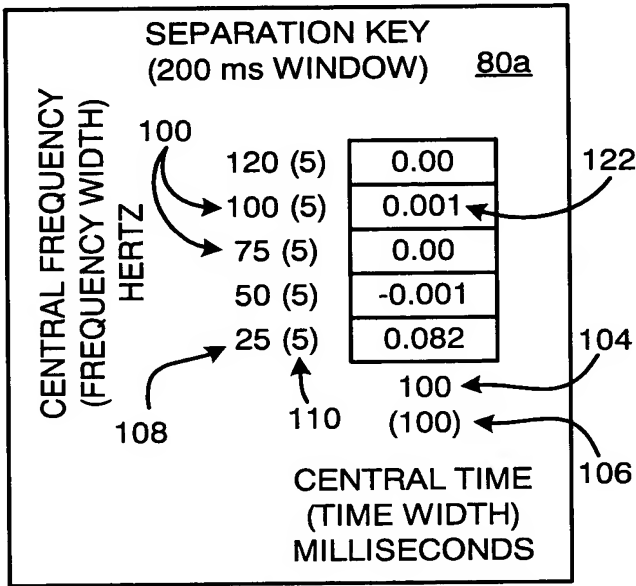


FIG. 45

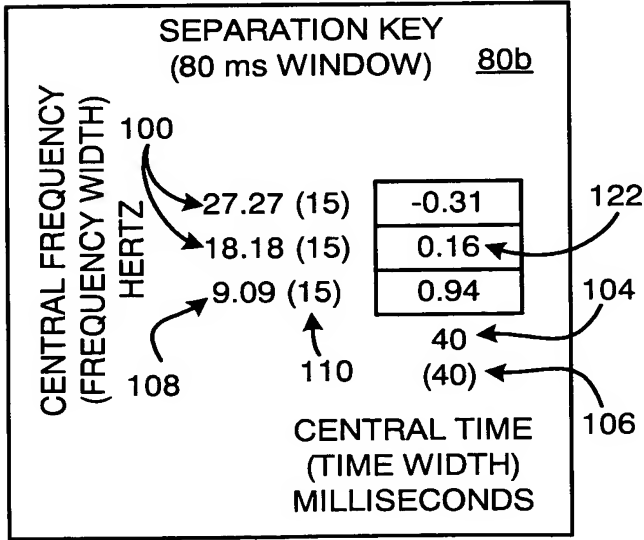


FIG. 46

FIG. 47

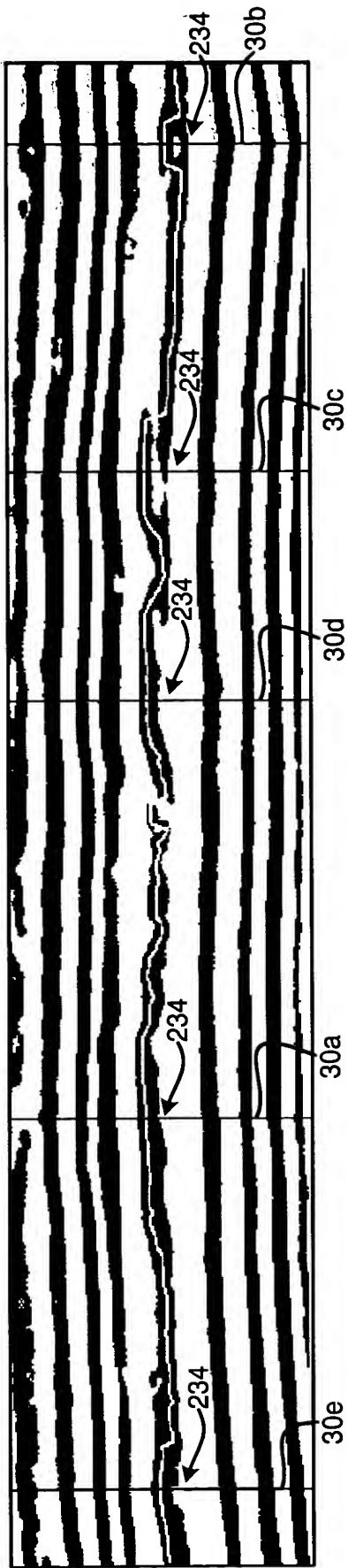


FIG. 48

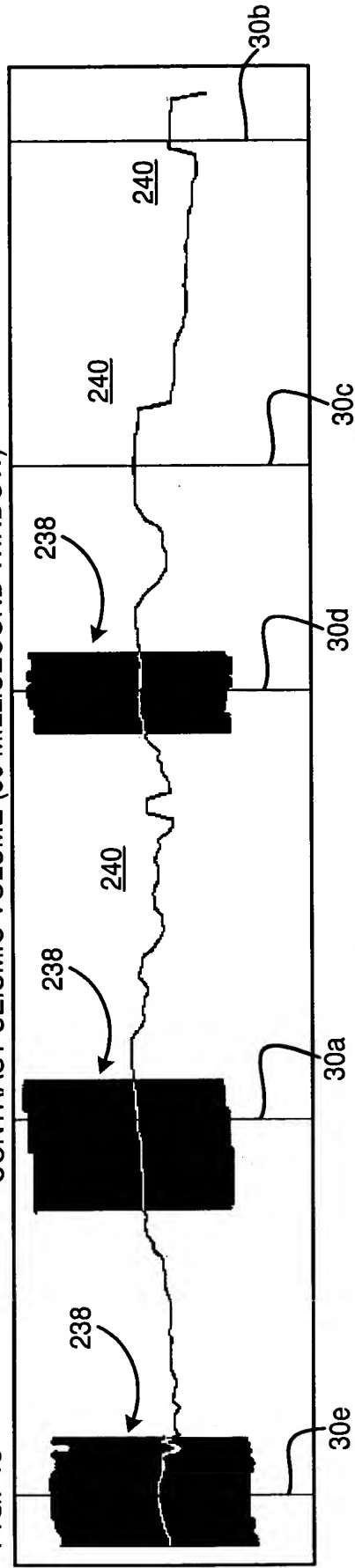
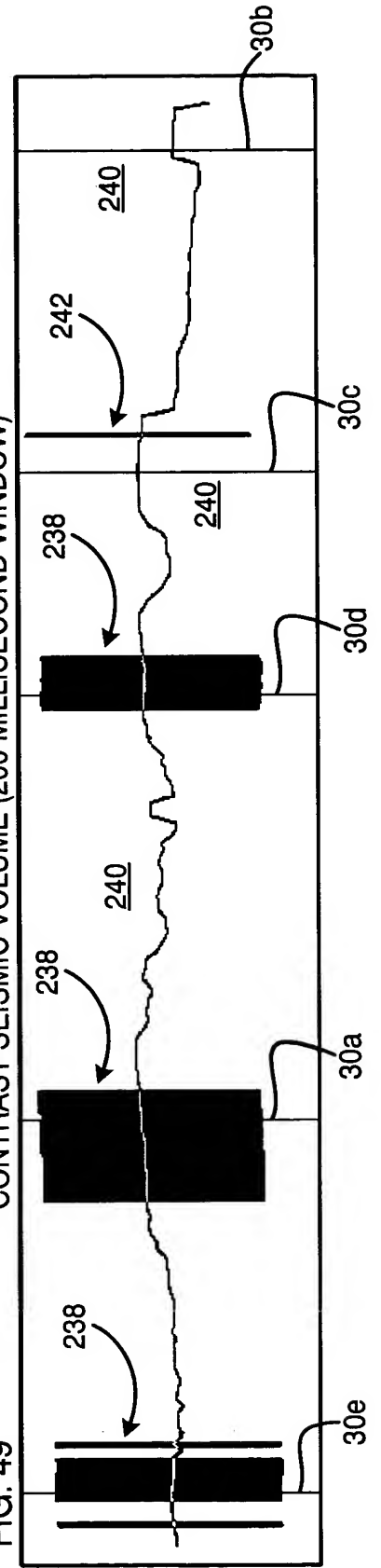


FIG. 49



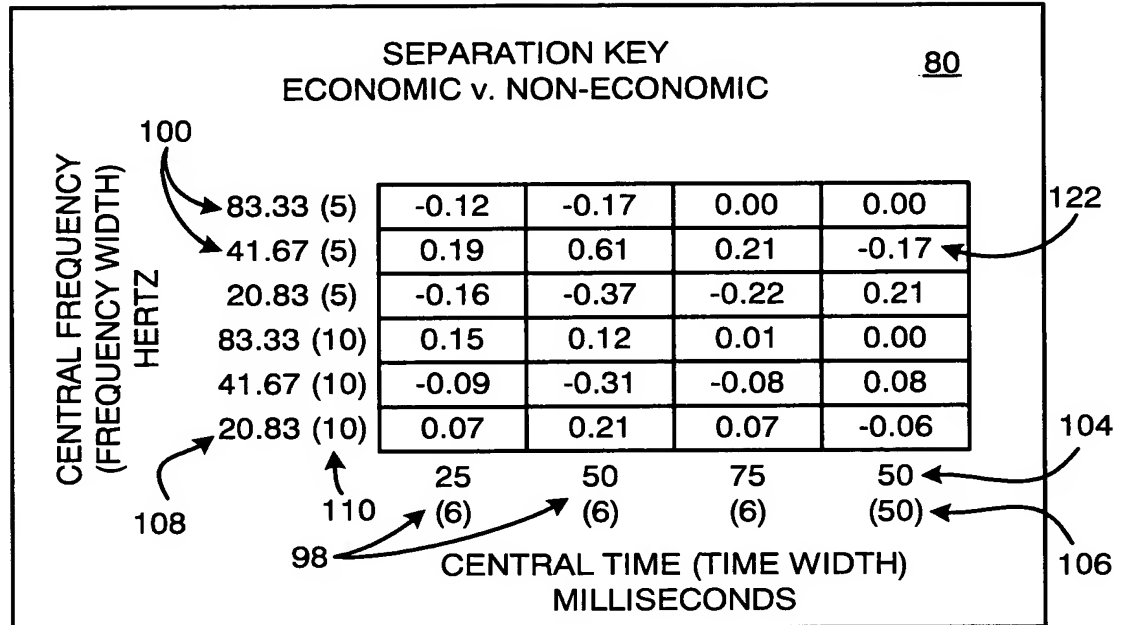


FIG. 50

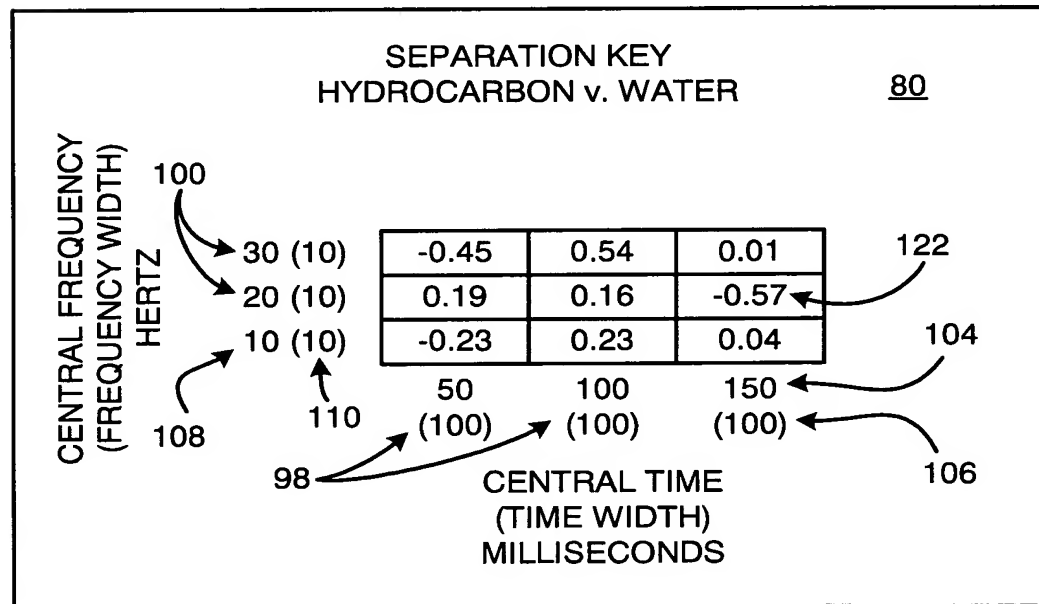


FIG. 51